

The scenario

Modeled after a historic quake in the same area along the Seattle Fault, the scenario quake:

- Is magnitude 6.7
- Is shallow with severe ground shaking
- Ruptures the surface for 14 miles from Harbor Island to area east of Lake Sammamish.
- Raises south side of fault 6.5 feet.

The impacts

BUILDINGS

1. Brick buildings in Pioneer Square and Chinatown International District badly damaged or collapsed. Concrete warehouses south of downtown partially collapsed.
2. Low- to midrise buildings in Mercer Island, Bellevue and Issaquah closed for up to a month for inspection and repairs.
3. Windows shatter in downtown Seattle and Bellevue high-rises. About half of high-rises built before 1975 suffer extensive damage.

TRANSPORTATION

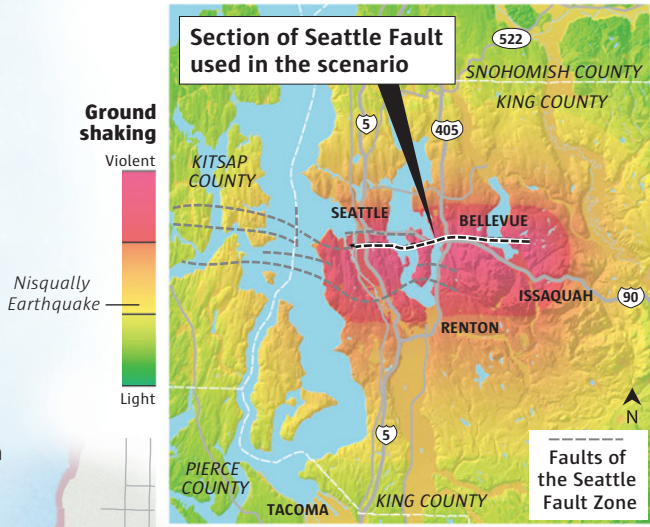
4. Alaskan Way Viaduct heavily damaged or collapsed, severing power lines that run along the structure.
5. All major freeways seriously damaged, leading to partial closures that last months or years.
6. Seawall and ferry docks are damaged or collapsed, closing the Seattle and Fauntleroy terminals.

UTILITIES

7. Water and sewer lines break, spilling sewage into Lake Washington, Lake Sammamish and the Green River. West Point and Renton sewage plants damaged.
 8. Mercer Island water supply possibly cut off when water lines rupture.
- Widespread power and natural-gas outages last from days to weeks throughout the area.

WATERFRONT

9. Shaking triggers thousands of landslides, generating local tsunamis.
10. Boeing Field and Renton airports damaged by liquefaction to their runways, but Seattle-Tacoma International Airport fares much better.
11. Half of Harbor Island may slide into Elliott Bay, creating a tsunami. Cranes at the container terminals are damaged or toppled.



Sources: City of Seattle, USGS, Washington Department of Natural Resources and Shannon & Wilson, 2004